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ILLINOIS AGRICULTURIST



Fifty-Fourth Year

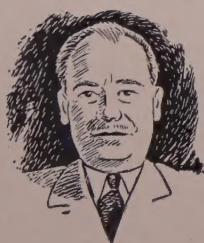
FEBRUARY, 1950

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'Go ahead with television,' he was told... in 1927



Looking back over an engineering career that has brought him 313 patents in 46 years—or roughly one every seven weeks, Dr. E. F. W. Alexanderson tried to sum up recently what had been the requisites for this kind of inventive fertility. What, in other words, makes up a climate conducive to creative thinking?

One thing essential to the scientist and inventor, he felt sure, is the steady backing and encouragement of his employer—particularly when his projects are long-range, offering no prospect of immediate returns.

It had taken foresight on the part of his employer, Dr. Alexanderson thought, to endorse his experiments in radio as far back as 1906 and later to underwrite

his attempts to develop transoceanic telephone equipment. It had taken still greater foresight to encourage his research into television—at a time when America had scarcely gotten used to radio.

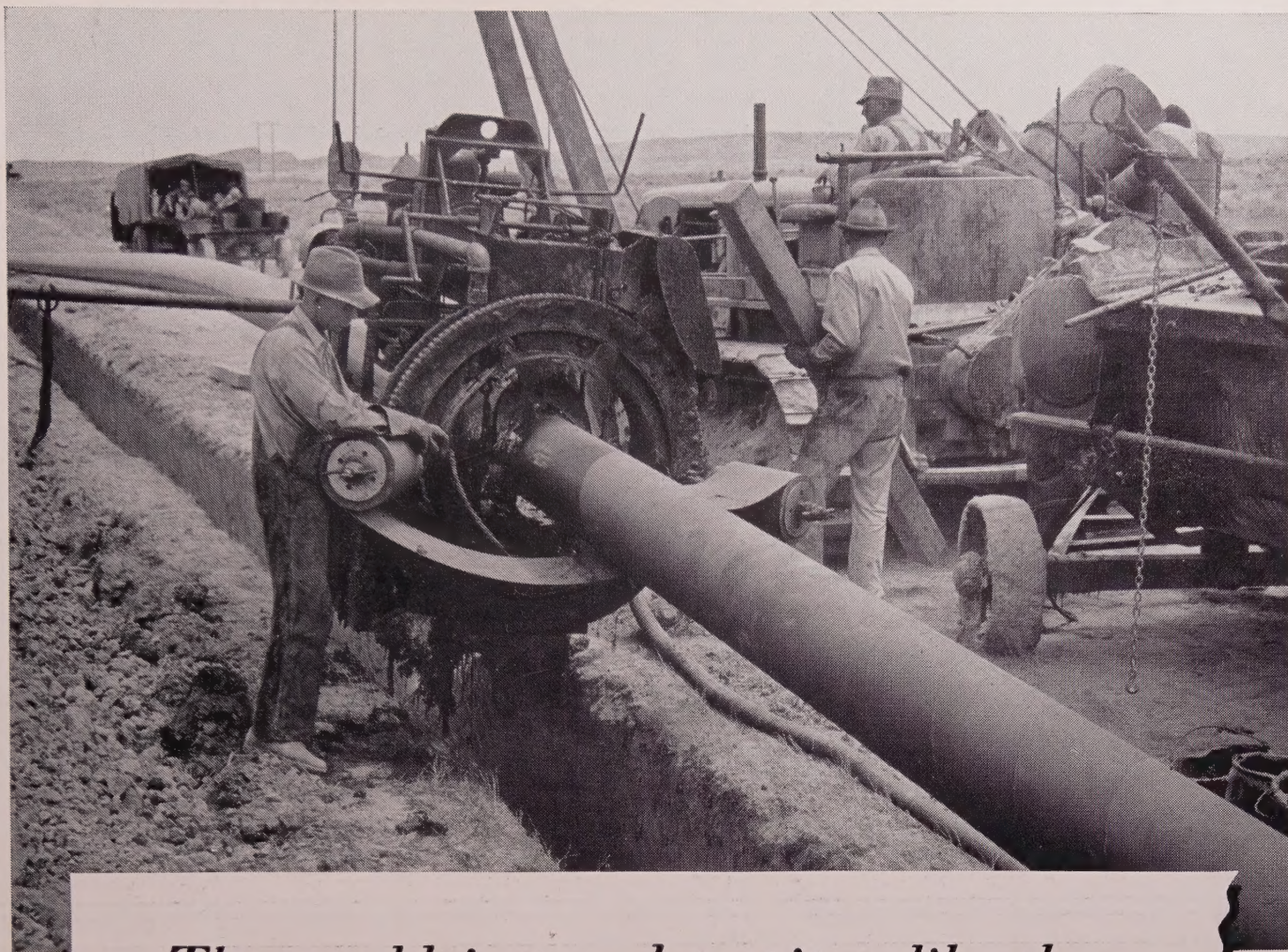
But on each occasion his employer, General Electric, had said "Go ahead." "Encouragement and financial backing were extended to me," he recalls, "through long years of experimentation." With this kind of support, he thought, "there is assurance that creative thinking will flourish."

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Dr. Alexanderson's views illustrate again how General Electric emphasizes research and creative thinking, encourages fertile minds to follow their imaginative bent, and so stays in the forefront of scientific and engineering development.

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From their work with pipelines, as from their work with all other phases of our business, Standard Oil scientists can feel the satisfaction of accomplishment and the challenge of all that remains to be done.

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Looking back to 1949, we feel that much advancement has been accomplished toward the goals we are trying to achieve. Many examples in the past of many a pure bred breeder has proven to us that only by owning and using outstanding sires and females can we march FORWARD. Further, selection of cow families, culling for type, and testing for production is a Must with us.

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Will Study Crossbreeding

Will crossbreeding of dairy cattle bring out good characteristics and improve production and efficiency?

This is a question being asked by many farmers and dairy specialists since the USDA reported considerable increase in production as a result of crossbreeding.

In an experiment expected to run for 6 to 10 years which is just being started by Dr. R. W. Touchberry of the U. of I., a comprehensive study of crossbreeding of Holsteins and Guernseys will be made. The U. of I., in cooperation with the Bureau of Dairy Industry, USDA, will conduct this experiment.

Twenty females and one bull of each breed have been purchased. Half the cows from each breed will be crossbred, while the other half will be purebred. The animals that are bred to the Guernsey bull this year will be bred to the Holstein bull next year, and vice versa, with the hope of eventually getting a purebred and crossbred heifer from each cow.

As far as is possible, animals purchased from the same herd will be bred, in equal numbers, to two different bulls to act as a further check. Animals born the same year will then be compared on basis of milk production, fat production, body weights and measurements, feed records, and udder palpation records.

Udder Palpation

There is now a definite possibility that American dairymen will be able to save \$250,000,000 per year!

A recent USDA bulletin says that money and time spent on raising dairy calves only for the butcher's block may possibly be saved through a new process called udder palpation. Udder palpation is the measurement of developing mammary glands in young heifer calves. This process will also eliminate the raising of poor offspring from these calves.

In the past, too much attention has been paid to external appearance of developing udders. Layers of fat and the relative position of mammary glands may make a future poor producer look excellent, and vice versa.

Examinations of calves from the United States Department of Agriculture herd at Beltsville, Maryland, were carried out periodically on calves ranging from 1 to 18 months of age. When 100 calves of each of the Holstein and Jersey breeds had been examined, a standard was set up as a basis for grading other calves.

Analyses were made of the production records of these calves. On the average,

the "advanced" calves produced 4,000 pounds more milk than the "retarded" ones.

No attempt can be made to draw fine lines of distinction between the grades—retarded, average, and advanced. These grades in calves 3 to 5 months of age were highly significant. After 6 months of age, the grades fail to prove out well.

Whether or not these classifications will be successful in herds with an average or low level of milk production can only be determined by extensive research involving herds of all breeds and types from all over the country. Since the original research was carried on in an extremely high producing herd, no attempt at a general statement can be made at this time.

Learning this method can be done only through demonstration. However, a beginner can, in 10 minutes, grade calves with a very small percentage of error.

If this method can be perfected it is worth the trouble — \$250,000,000 per year!

Antibiotic Research

At the University of Illinois, as in many other places, a search is being made for substances which will aid in the control of plant or animal diseases and which are produced by microorganisms which occur in the soil. This work has been carried on at the horticultural field laboratory under the direction of Dr. David Gottlieb for the past three years and under the direction of others before him.

Actinomycetes, microorganisms similar to bacteria, are isolated from the various samples of soil, and each type is tested to see if any material is produced which will have an inhibiting effect on the growth of other bacteria or fungi. These may be tested against microorganisms causing such diseases in animals and plants as TB, undulant fever, stem-rot, spot blotch, brown-rot,

and fungi which affects people. Any material which has any inhibiting effect is produced in quantity for further tests. Any material which is toxic to plants or animals is discarded.

Studies are being made of the part, these microorganisms which produce antibiotics, play in the soil and the effect the antibiotics have on other microorganisms in the soil. One of the answers sought is whether the number of disease-producing organisms can be controlled or reduced by the addition of antibiotic-producing organisms to the soil.

Corn Silage—Best

Corn silage is a popular feed for cattle. It is possible to carry cattle on corn silage and cottonseed meal alone for a long period of time without the development of ill effects. Ten heifers were carried on this particular ration for three years at the University experiment station. During this period they produced healthy offspring.

The ration, however, would be more economical if some dry roughage were used to replace part of the silage.

Tests concerning the usefulness of legume silages and corn silages have been made on the South farm. From a financial standpoint the legume silages were rather disappointing. The tests showed that soybean silage is worth only half as much as corn silage for grain-fed cattle. Under similar conditions alfalfa silage was worth only 15 per cent as much as corn silage.

Two comparisons of corn silage and sorgo silage were made. The results were similar to those obtained from legume silage. In these tests, one ton of sorgo silage was approximately 70 per cent as valuable as a ton of corn silage for stocker calves and 60 per cent as valuable for grain-fed cattle.

Numerous tests of this type have proved conclusively that corn is still the best silage crop grown.

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THE ILLINOIS AGRICULTURIST

725 South Wright, Champaign, Ill.

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Farm and Home Week Greetings



I AM GLAD to use again the pages of the *Agriculturist* to greet our Farm and Home Week guests. Our College, Station, and Extension staffs have made a program for this, the 49th event of this nature, that we believe fits the needs and spirit of the times. Illinois farm people realize that net profits from farm operations probably will not be so good this year as they were during the year that is past; but they also know that those who farm best usually make the best financial showing. They are therefore just as eager as ever to adapt the findings of research to their farming operations. There is also evidence that interest in how to live well is catching up with interest in how to farm well.

This year's program, like the 48 others in this series, will present authoritative discussion on the results of the latest research in production and marketing and in matters that affect the home. But that is not all.

To meet the ever-broadening interest of farm people in the workings of our government and in national and world affairs, our committee has drawn not only upon the talent of this great university, but also upon highly qualified guest speakers.

This program is especially for you, the farmers and homemakers of Illinois. Our entire staff and all the facilities of the University are at your service during your stay with us. We hope you will enjoy and profit by your visit, and that you will come again. We in our turn enjoy your being here and profit from what you bring to us.

Dean and Director

THE ILLINOIS AGRICULTURIST

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OUR PLATFORM

To acquaint students and faculty in the College of Agriculture, agricultural leaders, and the rural people of Illinois with the latest scientific developments in agriculture and home economics.

To report events of general interest on the College of Agriculture campus.

To serve as a means of training agricultural and home economics students in journalism and business administration.

To promote the best interests of agricultural and home economics students on the campus of the University of Illinois.

Going Forward . . .

Farm and Home week here at the University has grown over the years to become one of the most deep rooted institutions of Illinois agriculture.

It all started back in 1901 when a group of 200 stockmen and grain growers came to the University for a two weeks short course in livestock and grain judging. This two weeks course was given during the middle of January and was known as the Corn Growers and Stockmens Convention.

It is interesting to note that the local newspaper at that time recorded the event by saying, in part, that all farmers armed themselves with tablets and really got into this new activity with utmost enthusiasm even somewhat to the surprise of the professors in charge.

For the next 21 years after 1901, these short courses received a regular part in the program of the College, with the exception in 1915 and 1916 when foot and mouth disease was so threatening to the country that the event was cancelled. Again in 1919 influenza in epidemic stages prompted a cancellation. And the most recent cancellation was in 1945 when the gathering was prohibited by the War Mobilization Board.

A milestone was reached in 1923 when the two weeks course merged into a one week event and was given the name "Farmers Week." The program committee for Farmers Week was to arrange a program that would meet the needs of farmers and farmers' sons. The farm as a unit was to be considered, but separate sessions were also devoted to farm subjects of basic importance.

Then with added interest among state homemakers in this type of learning program it was decided to bring the home economists into the realm of the Farmers Week activities. This action consequently demanded a new name again for this gathering and thus in 1929 Farm and Home Week was first adopted as such. And during this interval between 1929 and 1949 Farm and Home Week has continued to grow to become what we know it as today.

Furthermore, I am sure the Forty-ninth Farm and Home Week will display the greatest advancement of agriculture as it exists today. This will be in contrast to the leisure-hour predictions that were exchanged around the cracker barrel and the cherry-colored belly of the old wood stove in the country store during our great-grandfathers' day.

This is in effect due to the agriculture of the state not standing still and the foresight of the pioneers in this direction. Certainly without intelligent direction agriculture could have drifted and this drifting in all probability would not have been in the desired higher direction. So as a result of the early attention and insight toward a more creative agriculture, we of Illinois can be proud in having efforts channeled through Farm and Home Week meetings as a means of adding enormously to the wealth of the state and to the welfare of her people.

OUR COVER: Here is a picture story as told by the Edwards family. They represent any American farm family welcoming their son who is returning from college for a vacation. John, the son, is being greeted by his father, Mr. Roy Edwards, while Andy (pulling sled) and Roy, along with the family dog, join in when the opportunity arises. John's mother and Susan are watching from the living room window.

John, married and father of the children shown, graduated from the U. of I. in '39 majoring in Agriculture. He now operates the Edwards'es 680 acre grain-livestock farm located 6 miles south of Champaign since his father's retirement in '45. Both are active in the Farm Bureau and are well known in their community.

Early Days on the Illini Campus

During these days of hustle and bustle, busy hours in and out of the classroom, few have the time or take the time to visualize the campus and surroundings and activities thereon during the infant days of the institution. Let us go back to those years and take a brief glimpse of the campus and surroundings and a few things that were being started that would, in years, make it one of the great universities of the nation.

Campus activities centered in and around the one building which was located in the vicinity of the present baseball field. To the south the placid Boneyard flowed clear the year round and was used as an "old swimmin' hole" by the small fry of the community and as a place to test their Isaac Walton skill.

About a quarter of a mile to the south stood the only tree on the 980-acre campus and farm. This tree is the sole remaining thing that has looked down on all the faculty and students, all social and athletic events, buildings, experiments, etc. It has grown up with the institution and remains a living memorial to the sons and daughters of Illinois. (The tree, a sycamore, stands south and west of the Auditorium at the intersection of the sidewalks).

In the vicinity were many low areas in which water frequently stood well into the summer or fall. These areas were favorite breeding places for mosquitoes and many species of water loving birds. Because of the prevalence of mosquitoes, summer complaint or ague (malaria) was a summer plague. One of the common remedies was a quarter's worth of quinine and a quart of whiskey.

The author, R. L. McMunn, assistant professor of pomology, graduated from the University of Illinois and has since been doing research and teaching here at the University.

The Illinois Central had been in operation for only about 11 years. The little wood-burning "Puff-a-Billies" with their exaggerated cowcatchers and immense funnel shaped smokestacks jerked the little box cars of 10-ton capacity over a roadbed that was forever sinking in the good black soil of Central Illinois.

West Urbana had only recently changed its name to Champaign. A wide open space extended from Champaign to the campus and on to Urbana. Throughout the spring, summer, and fall, cattle and horses roamed freely over this open prairie. During the summer of 1867 the campus area was fenced to keep the livestock out.

The first regent, Dr. John Milton Gregory, LL.D., came on the scene in 1867. He immediately started to attend various agricultural meetings to better acquaint himself with agricultural conditions in Illinois and to inform the citizens of some of the aims of the newly established Illinois Industrial university.

At a meeting of fruit growers at South Pass (Cabden) in September, 1867, Dr. Gregory outlined a few of the aims of the institution in these words. "The University is created to bring sciences to the aid in the solution of questions that now affect your prosperity and success. We aim to give those who are to be leaders

in agriculture and horticulture, an education as broad, systematic, and thorough as the condition of knowledge today can do.

"We do not propose to reproduce old Yale, Harvard, or any other of the colleges. This University is to be the College of Horticulture and Agriculture." (Sophomores take note of this statement about teaching by Dr. Gregory). "The students in horticulture shall be assigned to a certain proportion of the work in this department daily. They shall meet at the toolhouse at a fixed hour, receive their tools, proceed to the department of educational labor assigned them, and there work under the direction of the professor of horticulture, or his assistant, to learn by demonstration and apply their lessons in their practice."

The institution opened its doors March 2, 1868, with a student body of about 50 men and a faculty of three, the regent and two professors. The same year instruction in agriculture was begun and two years later a College of Agriculture was established. Women were admitted in 1870.

To relieve the monotony of a treeless campus, trees and shrubs were purchased. The plans for the first "ornamental grounds" on the campus and the planting and care of the trees and shrubs was personally supervised by none other than the regent.

In January, 1869, Mr. Jonathan Periam was hired as head farmer, having charge of the entire 980 acres. (Periam left the institution in a few years. He, with a few others, attempted to establish a sugar beet industry in Illinois. Later he was an agricultural and editorial writer for several agricultural magazines, then became editor of the *Prairie Farmer* magazine, which position he held for several years. He was the author of several books on agriculture.

In June of the same year Mr. Thomas Franks was hired as gardner; then in September the first professor of agriculture, Mr. W. F. Bliss, came to the institution. He was also made temporary horticulturist. Mr. H. K. Vickroy was employed as orchardist in March, 1869.

Because of bad fences and the inroads of livestock over the farm in 1868, plantings and experiments were limited. Some progress, however, was made; hedges and trees and the "ornamental grounds" mentioned above were planted and a large number of vegetable varieties were tested. This, so far as known, was the first experimental work at the institution. In 1869 more progress was made. That year about 1,350 apple varieties and a great number of other fruit varieties were planted. Students taking Agr. Eng.



The University in 1869

252 will be interested in a project started in the fall of 1869. That fall work was started on tile drainage of 40 acres. "This work has been done entirely by students under proper instruction. The drains are three to four feet deep, 40 feet apart."

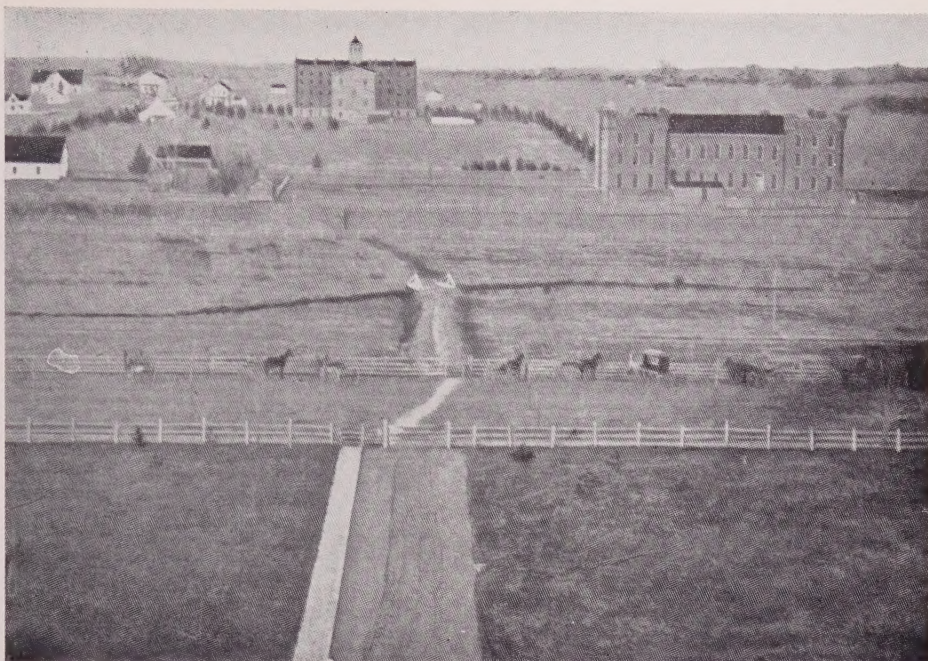
To keep the students abreast of the time the eminent horticulturist from Cincinnati, Ohio, Dr. John A. Warder, M.D., was elected lecturer on vegetable physiology and fruit growing. He delivered a series of 12 talks, the first being given on January 12, 1869. The entire student body was required to attend the talks. He was probably the first person to be brought to the campus to lecture.

At the same time was inaugurated an annual lecture course of about two weeks duration on agriculture and horticulture. Persons appearing at this "Granddaddy of Farm and Home Week" and topics presented were: "Potatoes and Root Crops" by Jonathan Periam, "Orchard Fruits" by Dr. E. S. Hull of Alton, "Grapes" by George Hussmann of Hermann, Missouri, "Small Fruits" by J. T. Tice of St. Louis, Missouri, "Agricultural Botany" by T. J. Burrill of Champaign (Burrill was at the time connected with the institution as a temporary teacher of mathematics and assistant professor of natural history), and "Timber Growing" by O. B. Galusha of Morris.

A forestry of 80 acres was at first planted; this was later reduced to 40 acres, then to 20 acres. Trees for this planting, which included more than 20 species, were received in the fall of 1869 and spring of 1870 and were set in a nursery. The first plantings in their permanent location were made in the spring of 1871. A few of the trees set at that time are still to be seen at the north end of the Forestry.

In March of 1870, Thomas J. Burrill was elected professor of botany and horticulture, a post he held with distinction for many years. He collected the seed, nursed the young trees and saw to their planting along the street now bearing his name (Burrill avenue) and its extension, the Broadwalk.

In mid-December, 1871, a new building was dedicated. Even at this early date the institution had a choir and a band, both organizations participating in the dedicatory exercises. On this occasion the song "Learning and Labor," which was



The campus in the early eighteen-seventies

composed especially for the occasion, was first sung.

By 1872 considerable progress had been made in testing varieties. At the meeting of the Illinois State Horticultural society that year the institution exhibited 34 varieties of corn and 73 varieties of potatoes.

The Illinois State Horticultural society in 1872 offered two prizes to students having the first and second best collection of insects. The first prize of \$10 was won by Mr. P. Gennardius, a native of Greece. Whether Mr. Gennardius was the first of many hundreds of foreign students is not known.

In 1872 the first report of an experiment was published. This was by Mr. Vickroy, the orchardist, on "Grafting Apples."

Probably many will feel that horticulture and forestry have been unduly mentioned. It should be kept in mind, however, Dr. Gregory stated the institution was to be a "College of Horticulture and Agriculture." That is essentially what the institution started out to be. During the first year or two practically all the work was confined almost entirely to horticultural crops and forest trees. After the first few years, plantings and experiments of other branches of agriculture were inaugurated.

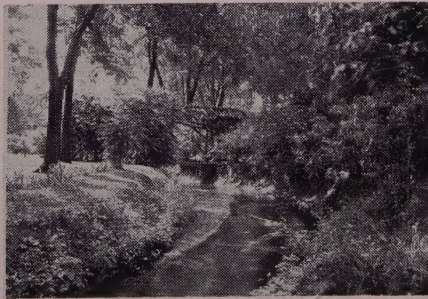
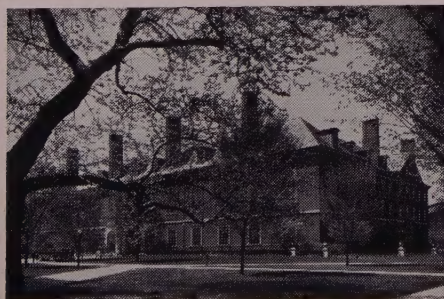
We will close our brief glimpse of campus life by quoting a few sentences from a letter by a Mrs. Sam Jones written to the Chicago Tribune. Mr. and Mrs. Jones had attended a three-day horticultural meeting in Champaign in mid-December, 1871, and during this period had attended the dedication of the new building at the Institution.

They arrived about midnight but were fortunate to find a room in the hotel in which there "was a stove." Breakfast the next morning included, "coffee, steak, sausage, fried and boiled potatoes, and buckwheat cakes." After breakfast they walked to the University "which is about a mile from the hotel. What could have possessed the trustees to locate the building so far out of the way?"

Mrs. Jones was not too impressed with the new building which was to be dedicated; she speaks of it as "a large massive warehouse-sort of structure, more solid than pretty." In writing of the dedication she stated "The heavy part of this fell to the regent, who made a two-hour speech. It has occurred to me that there ought to be a chair of condensation in every college. . . ."

Of the student body "there are about 80 girls and some 300 boys," and in regard to the instructional staff, "it looked a little strange. With the exception of the music teacher, all the teachers are male." She thought it was a long walk to the College but perhaps it was a "good thing to give the girls exercise; at least the girls all look healthy and pleased with school." They had the same opportunity as the boys "except that they did not have to drill or wear the University suit."

Of attire Mrs. Jones considered "the general style of dress is plain, and the students appear to be more anxious for an education than for show."



Left: The main library as it stands today. A limb of the oldest tree on campus frames the picture. Right: A scene of the Boneyard.

At Dixon Springs Experiment Station . . .

THEY SHOW IT CAN BE DONE

By Charles Marshall

The southern Illinois farmers are finding a new way to compete with their neighbors in the Corn Belt. It is through the use of good pastures. Furthermore, land which has been washing away with the corn and wheat crops of the past century is now producing big returns.

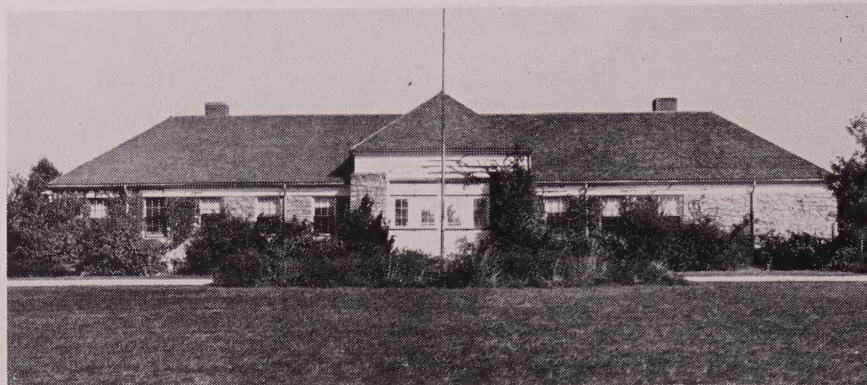
The station which started this revolution in farming is Dixon Springs, located in the extreme southern tip of Illinois, the earliest settled area of the state. Formerly a timber region, the land was cleared and plowed year after year till the topsoil literally washed away.

Now, farmers are including more and more pastures in their rotations and receiving better returns than they believed possible. Cattle and sheep are being used to convert this lush forage into meat for the table and the topsoil stays where it belongs, on the farm.

Pasture Crops Developed

Due to its length, different climatic conditions, and various soil types, Illinois has many classes of farming. They range all the way from the cash grain farming of central Illinois to the grass-land type found in the Dixon Springs area.

In the past 10 years, the Dixon Springs station has come a long way in solving the problems which face these farmers. They have been working on measures to control sassafrass and persimmon sprouts which grow annually in the pastures. Data has been compiled as to the time and frequency of mowing pastures to control this problem.



Superintendent's house

Many types of forage crops have been grown in an effort to determine the best pastures for a year-round program. The soils require limestone to grow the better yielding legumes such as alfalfa and sweet clover. Lespedeza, the old standby on poor soils, yields considerably better if a heavy application of lime is added.

"Ladino clover, fescue, smooth brome, and alfalfa have proved to be good pasture crops on the station," said Dr. R. F. Fuelleman, professor of crop production. These are new crops to the area and will give better gains per acre than the forages now used.

Includes 5,000 Acres

More than 5,000 acres make up the Dixon Springs station, giving it many advantages in operation. Experiments can be carried out on a large scale immediately, or tried on a small scale be-

fore being applied more extensively.

The land is owned by the U. S. Forest Service. However, the University has full rights to the land on the station. Building was begun in 1935 and the University took over full direction in 1940.

The superintendent of the station is R. J. Webb, a progressive man who has held this post for the past nine years. Hubert Cate is the extension research assistant. George Cmarik supervises the animal husbandry work, while George McKibben handles the agronomy tests at the station.

The administrative advisory staff from the University, W. G. Kammlade, J. N. Spaeth, W. L. Burlison, R. J. Fuelleman, and Dean Rusk, assists the station. Dr. W. G. Kammlade is the chairman of this committee.

Type of Terrain

The land in the Dixon Springs area is picturesque to the tourist, but it lends itself to a far different type of agriculture than is found in other parts of the state. The land is subject to serious erosion unless pastures make up a large part of the rotation.

Some of the land should be set out in permanent timber to control erosion. Corn and other tillable crops fit into the rotation scheme on the gentler slopes and bottom land. Contouring, contour stripping, and other erosion control measures are used on some of these slopes.

The aim of the station is to demonstrate how pastures can be used to maximize returns while holding the soil in place.

The yields of the various pasture crops are not measured in tons of hay or pasture days, but in the weight of livestock gain on each acre.

The University, in cooperating with the soil conservation service, is running (Please turn to page 18)



Sheep are extensively used for experiment purposes. Some are shown here on pasture.



DO
YOU
WANT



This?

or

This?

We Need More Legumes and Grasses

By Charles Turner

Do you know what the Illinois system of permanent soil fertility is? It is essentially a soil management plan. A plan to keep the soil physically fit, chemically balanced, and biologically active. Its practice is considered good farming, that of efficient use of farm resources, along with a well planned cropping system, and use of good low cost fertilizers when needed. What can we as farmers do to utilize this plan?

Legume and Grass Crops are the Key to the Illinois System of Permanent Soil Fertility

Through the proper use of legumes and grass crops we can master this plan. We need to grow heavy crops of legume and grass mixtures on level land at least once every four years. We need it to supply nitrogen and organic matter to our soils and to maintain good soil tilth. Rolling land may need legume-grass crops two out of five years or even more. Rough land needs permanent legume-grass cover.

There are not enough legumes and grasses being planted, however. Only a few areas in the state do not fall short in both acreage and yield of legumes and grasses. Many farms in Illinois do not have an adequate acreage of these mixtures in their rotations. Consequently, the soils on these farms are gradually losing their organic matter and good tilth.

What Does a Legume Do to Our Soil?

From the first, the Illinois system has been built around the legume crop. Our soil testing, lime, and plant food program has been aimed at insuring heavy legume crops. If we treat our soil with what it takes for heavy legume crops, we are almost certain to obtain high yields with other crops.

It is an old story to repeat the benefits of legumes. Obviously, it is one that needs to be repeated again and again. However, no one is selling legumes with high pressure salesmanship. The great value of legumes is likely to be forgotten in the excitement over a more spectacular item which makes the headlines. We, as farmers, are continually being bombarded with high pressure publicity on some of the more costly materials including fertilizers. Fertilizer materials are not cheap but nitrogen is "darn" near free.

We can produce our own nitrogen factory right in our own field. There are 35,000 tons of free nitrogen in the air over every acre of any of our fields. Through the use of legumes this nitrogen can be converted into a form available to our crop plants. A good alfalfa crop can give to our soil as much as 200 pounds of nitrogen. This is worth about \$24 if bought in fertilizer form. The answer here, then, is not the buying of nitrogen fertilizers. The answer is to grow more and better legume crops.

Our Legume-Grass Seed Problem Is Improving

Good seed is essential, we were never as seed conscious as we are today. When we ask for a recommendation of a field crop, we want to know more than the name of the crop. We want the specific variety of that crop. Unfortunately, legume and grass seeds are not as far along in our thinking as crop seeds are. We are too likely to say brome, alfalfa, or clover, rather than Achenbach, Ranger, or Midland.

Our seed supply is improving. The western states are now gearing production to meet eastern demand. Many states are in this production program

and each of these areas is being developed as carefully as possible so we can obtain a superior quality of seed. Also new strains are being developed by state agricultural experiment stations and the U. S. Department of Agriculture. These will be in the market channels before very long.

Good Seed Is Our Real Master Key

There are two things we can do to influence our crop production. First, choose the crop and variety wanted; and second, know the quality of the seed being bought. Of these we are almost absolute master. Buying certified seed is then of utmost importance.

The success of any crop adjustment program depends largely on the effectiveness of the legume-grass program that accompanies it. The quality, quantity, and genuineness of the legume and grass seeds used becomes then a master key of master keys. We should insist upon the genuineness of known superior varieties or strains as well as seed quality. Then our percentage of success will be greatly improved and the production of the legume-grass mixture increased.

Legumes are the backbone of soil conservation. When many of us think of erosion control and soil conservation, contour farming, strip cropping, terracing, and grass water ways are foremost in our thoughts. Too many of us do not yet understand that the legume-grass crop is the backbone of any effective erosion control program. Its effect is double barreled. It protects our soil against beating rain and makes our soil more porous for absorbing rainfall. Our progress in soil conservation then depends on this: the speed with which we utilize legumes into our cropping system.

Treasures of Yesteryear

... waiting to be displayed

By Barbara Thiebaud



This satin-striped taffeta (left) modelled by Evalyn Smith was a gift of Mrs. Margaret Lang. This dress was worn in the White House in 1863 when Mrs. Lang's grandmother, Anne Hallett, was a guest there. Lorna Springer (right) is wearing a striped taffeta which was stylish in the 1860's. It belonged to Mrs. Ben Perry's grandmother, Mrs. Clarisa Pierce.



Barbara Thiebaud models a red wool challis dress with a black print design. The feather boning is typical of 1902, the year in which it was considered very stylish.

In 1863, this gown of silk organza was completely hand made. It is a gift of Mrs. Margaret Lang and was worn in the White House by her grandmother Anne Hallett. Verle Jean Smith is modelling the dress.

Are great-grandmother's wedding dress and dad's baby dresses hidden away in boxes in your attic? Don't you enjoy dragging them out during spring cleaning just to sit and think about the life in those days?

Hidden away in many closets in the home economics department at the U. of I. are a multitude of beautiful old clothes and accessories. Some of we students got them out one day and tried them on. We realized how much others might enjoy the funny old hoop skirts, the delicate lace fans, the heavy, extensive bathing suits, and the fine old dresses, coats, and hats. If only there was a place to exhibit them.

Several years ago, Mary Whitlock, of the home economics department, had several old family garments. She had an avid interest in collecting interesting fabrics and so she began to save the fashions of yesteryear.

People who heard of her hobby sent many of the articles that comprise the collection she has left here in the home economics department. Other faculty members have carried on her hobby until now it is a treasure waiting to be displayed.



From the 1880's came this dress and authentic curls. The dress of cream-colored sateen with blue sprig print was given by Mrs. Carolyn Houtchens. Jean Cox is modelling it.



Student Teachers Meet A Real Challenge

By Koreen Krapf

"The student teachers are here!" These were familiar words in 6 Illinois high schools last Halloween when 12 home economics majors moved in for 6 weeks of student teaching.

Two girls went together to each high school. They were: Emma Lee Price and Jane Pollard at Monticello, Marjorie Harms and Mildred Wall at Cerro Gordo, Polly White and Jean Casebier at Arcola, Margy Woodburn and Martha Samuelson at Morton, Connie Walker and Mary Strickfaden at Milford, Terry Flach and Koreen Krapf at Paxton.

To these 12 girls, student teaching was one of the most challenging experiences of their lives. Sometimes these challenges were interesting—at other times, difficult. Nevertheless, each girl brought back to campus a host of experiences and innumerable highlights of student teaching.

Jean Casebier, student teacher at Arcola, admits that her most trying day was the first one. Jean taught the home ec III class how to make and fill cream puffs. She did this by demonstration. While preparing the demonstration, she stuck her finger with a thumb tack and tore a huge runner in her hose! Thoughts even entered her mind of walking out and taking the bus back to Champaign before class started. How could she combine all the ingredients in front of a scrutinizing class and expect the final product to turn out right? However, the demonstration went quickly with no mishaps and the girls later made good grades on the test covering cream puffs.

Consulted by Homemakers

To the student teachers, a memorable part of student teaching was being consulted and relied upon by many students and adults. Marjorie Harms, from Benson, really felt like a teacher when a woman in an adult class entrusted Marjorie, and Mildred Wall, her companion, to slip-cover a chair for her. The girls warned the woman that they had had no experience or instruction in slip-covering but still she placed her reliance on them.

Another time that these two student teachers noticed how students look up to their teachers was in the school cafeteria. Marjorie taught table etiquette and setting. Over the lunch table, her students often watched to see if Miss Harms was "practicing what she preached."

Different circumstances showed Polly White, in Arcola, how high school students look up to their teacher. In foods class as one girl was carrying a tray of dishes, another girl bumped her. The dishes clattered to the floor; Immediate-

(Please turn to page 22)



Student, Mary Hansen weighs Bill (Tuffy) Francis while brother, Flip, and Mother, Mrs. Fred Francis look on.

BABIES ... for This Lab Course

By Elvia Tarble

The youngest participants in the field of foods and nutrition are a group of 6-month-old babies. Although you won't find them registered at the Dean of Women's office, they are an important part of a new course called physical growth and nutrition, as taught by Dr. Janice Smith—and all they have to do for grades is grow.

This course is one in which there is a distinct coordination between the practical aspects of homemaking, and the theory presented in the lectures. The course itself deals primarily with growth and the things which may accelerate or retard it. It is made more interesting to the girls by the fact that they deal directly with the children. In this way the girls have an opportunity to really apply principles they have learned.

Visit 'Their Babies'

During the first few weeks of the semester the girls are either assigned a child to observe or to choose one they know. Most mothers consider it a valuable experience for the family as well as for the student. The girls are required to make home visits to "their babies" at least once a week. The time is arranged at the convenience of the parent, child, and student. If at all possible the students try to arrange a time when the baby will be awake, either at feeding or bathing time. In this way the girls can be of some help to the mother while she is learning new skills in child care.

Four-month-old Bill "Tuffy" Francis was just an unassuming little boy until he became a part of Mary Hansen's education. Now every week he is visited,

weighed, measured, and carefully observed every time he sneezes. The girls look for signs of development, such as the first time he notices his parents, or calls to them. The age at which personality traits are developed and certain physical accomplishments can be noticed are found to fall into a fairly definite pattern.

When Mary completes her course with "Tuffy," his progress will be represented by mass charts showing height and weight as related to age for a period of one semester.

Prenatal History Important

Although height and weight are carefully tabulated, the girls go far deeper than that into the child's record. If the child was not yet born in September when this work was begun the girls may want to know something about the mother's prenatal care and diet. Physical deformities in later years can often be traced back to a nutritional deficiency during this period of growth.

They may also want to know if the parents have any hereditary traits which may or may not have been apparent in the child. A study of the babies' older brothers and sisters may explain much about their personalities.

It's easy to see why girls want to go into the field of growth and nutrition. One look at the successful careers of former students definitely proves that training in this field is an asset. One graduate is doing further research for Pet Milk Company, another has a position as counselor to young mothers, and many others have the full-time job of children of their own.

STUDENTS IN ACTION

JUDGING TEAMS . . . By Don Mann

Illinois judging teams walked off with their fair share of honors at various intercollegiate meets held around the country this fall.

Meat Judging Team

The meat judging team under the coaching of Verlin K. Johnson, assistant in animal science, placed fifth at the International. This was in a field of 21, the most contestants in the history of the contest.

The team received a plaque for placing first in lamb judging. They also were eighth in pork judging, tenth in lamb grading, tenth in beef grading and sixteenth in beef judging.

In individual honors, Merrill McAllister, senior from Waterman, was second highest individual with 934 out of a possible 1,040 points. He was only 11 points behind the high man. To do this Merrill tied for fourth and fifth in pork judging, tied for fifth to ninth in lamb grading, and placed eighth in lamb judging.

Arnold Taft, senior from Rochester, was second in lamb grading.

Gordon Knowles, senior from Bensenville, tied for sixth and seventh in lamb judging.

Alexander Mackimm, senior from Chicago, was the alternate at the International.

At the American Royal Livestock Show in Kansas City, Missouri, the team placed fourth in a group of 14. Knowles, McAllister, Taft, and alternate Rex Emory, senior from Prairie City, made up this team.

Knowles was the fifth highest man in individual judging with a third in pork judging and a ninth in pork grading.

Livestock Judging Team

And then there was the team that judged the animals on the hoof.

At Kansas City the livestock judging team was twelfth in a field of 22. Team members were Taft; Robert Downey, senior from Aledo; Wayne Niewold, senior from New Holland; Ernest Painter, senior from La Harpe; James Robison, senior from Pekin; and alternate Fred Killam, senior from Chapin.

At Chicago the team was twentieth. Thirty-four teams were entered, making it the largest such contest held. Downey was ninth out of 170 in individual honors and sixth in judging sheep. Taft was eleventh in judging sheep and sixteenth in total points.

The team at Chicago consisted of Downey, Taft, Painter, Robison, Killam, and alternate Joseph Fairbairn, senior from Galesburg.

Coach of the team is Fred C. Francis, assistant professor in animal science.

Poultry Judging Team

The poultry judging team, coached by

H. M. Scott, professor of poultry science, copped eighth place among the 17 contestants entered in the National Intercollegiate Poultry Judging contest. The contest took place November 29 and 30 in Chicago.

The team members were Jim McCurdy, senior from Wyoming, Illinois; Gerard Linsner, senior from Chicago; and Joe Kowalski, junior from Calumet City. Joe placed tenth in individual honors.

Dairy Products Judging Team

A team that had a little hard luck and would have done better had not one of its members caught a cold on the way to the contest was the dairy technology judging team. The team finished tenth out of 18 in all-around judging in the Intercollegiate Dairy Products Judging contest held in Los Angeles, California, October 23.

In individual honors, Don Miller, Oak Park, took fourth in all-around testing, fourth in ice cream, fourth in butter, and tenth in milk judging. James Brosos, Chicago, was tenth in ice cream and twenty-first in milk tasting. The other member of the team, Carl Hunding, Chi-

cago, caught cold on the way out to Los Angeles and did not do as well as he ordinarily would.

The coach is Don Moore, assistant in food technology. Moore, a newcomer on the University staff, is from Michigan State. He was all-around winner last year at Atlantic City.

Dairy Cattle Judging Team

With only three days' training, the dairy cattle judging team coached by E. E. Ormiston, assistant professor in dairy production, placed twelfth as a team in the Intercollegiate Dairy Judging contest. Thirty teams were entered, making it the largest contest to be held.

Besides taking twelfth place in all-around judging, the team tied for second in judging Brown Swiss and tied for ninth in judging Guernseys.

In individual winnings, Roger Hemken, senior from Pontiac, was second highest in judging Brown Swiss.

Other members of the team were Tom Hill, junior from Union; Edward Kimmelshue, junior from Manteno; and alternate Marvin Nordmeyer, junior from Chebanse.

POSITIONS TAKEN BY AGRICULTURAL GRADUATES FROM SEPTEMBER, 1946, TO SEPTEMBER, 1949

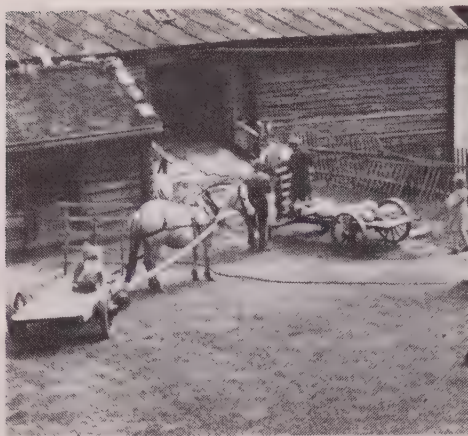
Educational workers	Number	Percent
High school (vo-ag) teachers	121	21.8
Veterans' teachers	15	2.7
Assistant farm advisers and (or) youth assistant	41	7.4
Extension specialist	5	.9
Subtotal	(182)	(32.8)
Students		
Graduates (full-time and part-time)	89	16.0
Others (Vet. Med., Law, Theology, Dental, etc.)	16	2.9
Subtotal	(105)	(18.9)
Farming and Farm Management		
Operators, cooperators and tenants	86	15.5
Managers (resident and commercial)	15	2.7
Herdsmen	5	.9
Hands	2	.4
Subtotal	(108)	(20.3)
Agricultural Businesses		
Salesmen and salesmanagers	50	9.0
Dairy technologists (dairy plants)	24	4.3
Fieldmen (milk companies)	8	1.4
Buyers and (or) sellers	12	2.1
Florists and Landscape gardeners	9	1.6
Loan agents	3	.5
Appraisers	2	.4
Miscellaneous	18	3.2
Subtotal	(126)	(22.5)
U.S.D.A.	15	2.7
Agronomists and Entomologists	17	3.1
Miscellaneous	3	.5
Subtotal	(35)	(6.3)
TOTAL	556	100.0

**"The Future of
Farming is what
we make it"**



Illinois
**AGRICULTURAL
ASSOCIATION**
AND 99 COUNTY FARM BUREAUS

Meta Marie Keller, graduate '49, and member of International Farm Youth Exchange tells in her following letter of living conditions in Norway. She worked with Norwegian farm families for 10 weeks and knows the agricultural situation as it really exists in Norway.



Scenes on a Norway farm. Left, in a barnyard; right, drying hay.

THE LAND OF THE MIDNIGHT SUN

Letter from Meta Marie Keller

Hello Everyone:

This past summer has been one that will long be remembered by at least 31 of us now at home in the United States. This was the summer of young people chosen to go to Europe and live on farms as part of the International Farm Youth Exchange project sponsored by the USDA.

I happened to be one of the lucky ones chosen to go to Norway—the land

of the Midnight Sun. That's quite true, for in July it is still dusk at midnight and at 2:30 a. m. the sun is brightly shining.

While in Norway I lived on three farms, working right along with the people—one of the ways to really know them. At first, the different language was confusing, but when "one must, one dies"—I learned fast. The young folks are taught English in school so I had

help with my Norsk-English most of the time.

Although half of Norway is in the Arctic Circle, and Oslo is on the same latitude as the Alaskan Yukon, the summers are warm enough to grow barley, oats, and potatoes. Of course my second farm was about 250 miles north of Oslo—up in the region of glaciers and snow-capped mountains. While there in September, we cut the green oats, not yet headed, and trucked it down to the home farm and put it into the pit silo for winter use.

And potatoes are grown by the acres. Besides the family eating, some are saved for seed, some sold, and the rest fed to cows, pigs, horses, and chickens.

During the war, the country was occupied by the Germans for five years; and the people are still recovering from its effects. Very few people have cars, for the Nazis took their cars, radios, new equipment, and electrical household equipment.

Meat, coffee, sugar, chocolate, and fat are still rationed, as is clothing. How would you like it if you were only able to have one new dress a year? Many items are just not available, such as raisins, nuts, cereal, and rice—some that we take for granted.

Their homes and farms are somewhat like ours. The older farmsteads up in the valleys will have several houses—one for sleeping, one for living, one for eating, a barn, and numerous storage buildings all built in the older square formation. The newer farms will have one large house and one very large barn, with one or two storage buildings.

By living with these people we learned of their problems, their joys, their ideals. My newly adopted families are the same as we Americans or anyone else in the world. In most instances the differences in traditional customs, geographical location, topography, and language are the only barriers to understanding. But after this summer I think that if we would take time to understand the other fellow's problems, we would have a more happy and peaceful world.



Armour Quiz . . . Test your knowledge!

How many of these questions on the livestock and meat packing industry can you answer?

Questions

1. How many meat packers buy farm livestock?
☐ 4 ☐ 400 ☐ 4,000
2. Who are the cleanest people on earth on the basis of soap usage?
☐ Dutch ☐ Americans ☐ Chinese
3. About how many pounds of meat did the average American eat in 1949?
☐ 130 ☐ 150 ☐ 170
4. How many people own Armour and Company?
☐ 400 ☐ 4,000 ☐ 40,000

Answers

1. Armour and Company is one of 4,000 packers competing for supplies of meat animals.
2. Americans use the most soap—25 pounds per person per year. (Dutch, 24 pounds; Chinese, 20 ounces). Americans are fortunate in having plenty of soap as a by-product of animal agriculture and meat packing.
3. The average American ate a little more than 150 pounds of meat last year.
4. There are approximately 43,000 Armour shareholders.

ARMOUR

AND COMPANY

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Shall the Land Remain for Them?



The answer to this question lies largely with those who till the soil—with farmers who plow . . . and plant . . . and reap.

But the task is not alone for them. In the final analysis, some responsibility belongs to the other four-fifths of our population who also live from the land. They can seek to understand soil conservation, and strive to help build public sentiment for the preservation of land and water resources. This implies correcting wasteful habits of the past.

John Deere believes soil conservation is vital to the nation's welfare. The land is *your* source of livelihood, too. Fight to preserve it, as you would fight to preserve your freedoms.

JOHN DEERE



MOLINE, ILLINOIS

For More than 110 Years

PROFESSOR FRANCIS TURNS FARMER

By James Crowdus

"You can take the boy out of the farm, but you can't take the farm out of the boy," says Fred C. Francis, assistant professor of animal science, as he contemplates leaving to operate his own 180-acre livestock farm at Wilmington, Illinois.

Francis came to the University as a student in 1936 and in 1940 joined the

animal science department. In 1945, after serving in the armed forces, Francis returned to the animal science staff.

Francis' departure will be a particular loss to the students because of his interest and participation in their affairs. In addition to his teaching duties he has been a member of the students' activities committee and the students' advisory committee and is chairman of both committees this year.

For the past three years he has been coach of the University livestock judging team and adviser to Hoof and Horn club.

CHIPS . . .

The wife who drives from the back seat is no worse than the husband who cooks from the dining room table.

* * *

"There are several things I can always count on."

"What are they?"

"My fingers."

* * *

It was the cat's fault, darn her skin!

It was so cold I let her in,
The stall where I was milking at
An' that ends me an' that there cat,

She rubbed again me, an' said
"myyou!"

While I was milkin' of the cow,
An' leaned upon me with her paws,

She knowed that I could squirt
her jaws

Plumb full of milk if I'd a mind,
An' so I did, just to be kind!

Say! Maybe that cat wasn't
pleased,

She purred round and then she
squeezed

Between the milk stool an' my leg
An' every minute she would beg
In such a tone as if it hurt,
For me to give her one more
squirt!

An' then, because I let her beg,
She rose up on the cow's hind
leg—

Me not a noticin' a bit—

An' sharpened up her claws on it!

Yes that's the reason I'm so sore!
The stable's got a flimsy door,
An' if it hadn't got one I've
No cause to think I'd be alive.

That cow's foot hit me like a
maul!

No brickbat ever hit no wall

As hard as I did when I hit

That door and smashed it. Then
I lit

Kerplash in the cow's drinking
tub—

All I could say was just "blub,
blub."

Say, when I crawled back that
there cat

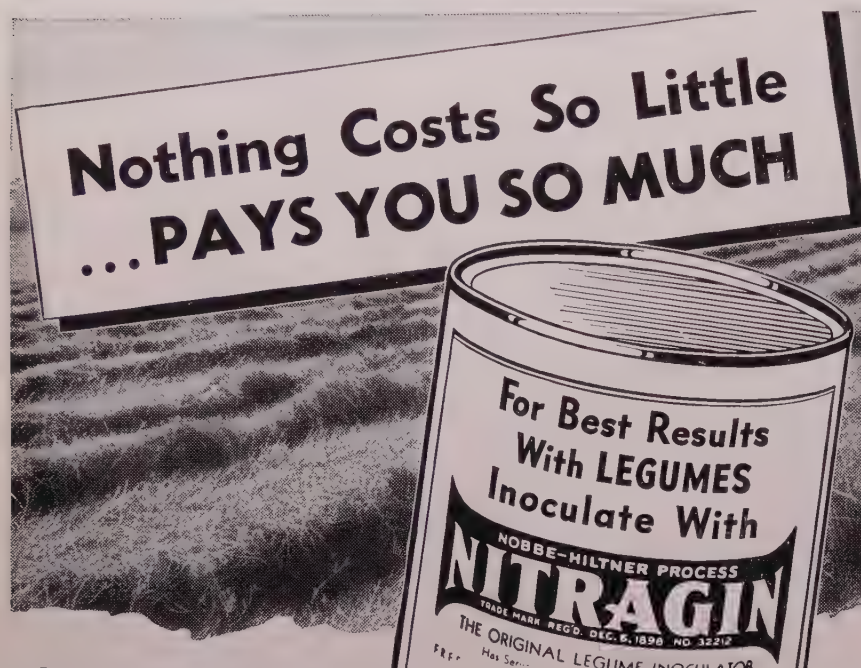
Was lappin' where the milk spilled
at!

An' the cow horned at me! For she
Had a fool notion it was me
That scratched her leg and made
her kick!

She pasted me plum through the
wall

An' never kicked the cat at all!
That cat can m'ew till she's
froze—

But she stays out next time, that
goes!



Inoculated Legume Crops are YOUR CHEAPEST SOURCE FOR

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Allis-Chalmers introduces two new companion machines, a Forage Harvester and a Forage Blower. Operated by a full 2-plow tractor with power take-off, the Forage Harvester is actually three machines in one:

A DIRECT-CUT HARVESTER for cutting and chopping grass and legumes for silage, and corn stalks for stover.

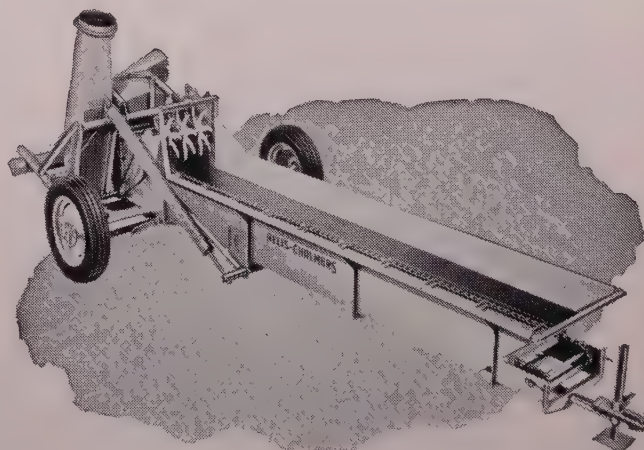
A WINDROW HARVESTER with pick-up mechanism, for chopping wilted or dry hay, combined straw, or roughage for bedding.

A ROW-CROP HARVESTER for cutting and chopping corn, sorghums, and other tall row crops.

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DIXON SPRINGS . . .

(Continued from Page 8)

tests on soil and water loss with different rotations on varying degrees of slope. Other tests are comparing the effect of increasing degree of grazing on soil loss.

It was found that with moderate grazing on permanent grass-legume pastures on a 5 per cent slope, soil loss could be reduced to one inch in 200 years. These tests are visible evidence to the farmers that they can greatly reduce soil loss from their land and still receive incomes rivaling those of the grain farmers.

More recently, work has been carried

on with irrigation of soil plots. Ladino clover fertilized and unfertilized has been tested. It was found that when the soil's moisture holding capacity fell below 20 per cent, the plants could not survive.

The Livestock Program

The other end of this station's demonstrations is the livestock program. Cattle and sheep are used since they can convert the pastures into profit for the farmer. The fat livestock grazing on the station are proof to visiting farmers that they also can produce meat as profitably as any area in the state.

Gains as high as 682 pounds per acre were produced by steers grazing on the ladino-fescue pasture. The other pastures including ladino in the mixture gave gains ranging from 450 to 500 pounds to the acre. If farmers could apply these measures to their individual farms, this region would be a great livestock producing area.

Since disease has been such an enemy of the cattle producer, the Dixon Springs station is doing some work with the control of Bang's disease. They have isolated a group of cattle from the rest of the herd and are testing various methods of control on them.

In the past they have done considerable work on the control of intestinal parasites in sheep. All this work fits into the program of demonstrating to the farmers how they can overcome the obstacles and produce livestock successfully.

Key to Prosperity

This station is providing a great service to Illinois agriculture. If the farmers of the area follow the demonstrations carried on at Dixon Springs, southern Illinois will no longer be a subsistence farming area.

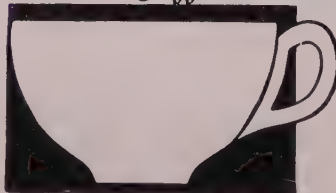
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When Do You Eat?
What Do You Eat?**
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Vocational Agriculture Instructors May Obtain a History of Polled
Herefords for Classroom Use by Writing the Secretary

TOMORROW'S CATTLE TODAY!

4-H'ers Receive National Acclaim

By Dorothy Giese

Illinois is very proud of its 4-H members. Five Illinois 4-H'ers were winners in sectional and national contests this year.

Gilbert Blankenship of Yorkville, Kendall county, won the national achievement contest. The boy and girl winning this contest receive chests of sterling silver awarded by the President of the United States and a \$300 scholarship. Gilbert is twenty-one and was married this fall. He attended National 4-H Club Congress in 1946, 1948, and 1949. He was one of the delegates to the 1948 National 4-H Club Camp in Washington, D. C.

National winner of the citizenship contest was DiAnne Mathre, 18, of DeKalb, DeKalb county, and was awarded

a \$200 scholarship. She has done outstanding work for the welfare of her community along with being a champion 4-H'er. DiAnne has been a member of the radio "Quiz Kids." She is a freshman at Northern Illinois State Teachers college.

Kenneth Koertner of Pearl City, Stephenson county, was a national winner in the meat animal contest and received a \$300 scholarship. He is twenty years old and has been in club work eight years. Kenneth has an FFA American Farmer degree.

Joyce Mishler, 17, from Eureka, Woodford county, was named a national winner in the canning contest. The award was a \$300 scholarship. She has been a club member for seven years, serving

as a junior leader for five years. She is a freshman at Goshen college, Goshen, Ind.

Carleen Wellman was one of the national winners in the clothing contest. She is from Payson in Adams county. Clothing has been her main interest in her seven years of 4-H.

Wendell Swanson, 19, of Rockford in Winnebago county, won a trip to the National 4-H Club Congress as a sectional winner in the soil conservation contest. During his five years of 4-H membership, he has planned and carried out soil and pasture improvement practices.

Mama said, "Papa, should I take Junior to the zoo tomorrow?"

"Absolutely not," said Papa. "If the zoo wants him, let 'em come and get him!"

* * *

A synonym is a word used in place of one you can't spell.

Purebred Holstein Cattle

D.H.I.A. Herd Averages

1948-35 COWS-12,790 lbs. Milk-473 lbs. Fat
1949-39 COWS-13,164 lbs. Milk-489 lbs. Fat

All Calves Sired by Northern Illinois Breeding Co-op Holstein Bulls.

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*A New Breed of Hogs
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Performance of the foundation herd's 10 year average is:

NO. PIGS PER LITTER BORN ALIVE 9.3
WEIGHT, LBS., AT 168 DAYS 211 lbs.

Order Your Breeding Stock Now! Jepson and Oatman, Dundee, Illinois

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HOLSTEINS**

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“Home of Better Holsteins”

The Hickory Creek Farm herd consists of approximately 300 registered Holsteins. The herd is being developed on a program of production testing including the entire herd on DHIA and from 20 to 25 always on Advanced Registry test, maintaining a herd average of better than 450 lbs. of Fat on 120 milking cows and with individual A R records above 1100 lbs. of Fat.

A program of classification for type is a means of evaluating the conformation of the animals we are working with — we have 36 Excellents and 48 Very Good animals listed in our last classification.

Showing at major fairs is a part of our herd improvement program. Winnings include the All-

American Jr. Yearling, Honorable Mention All-American heifer calf, Grand Champion Cow at the Illinois State Fair and a long list of winnings at major State Fairs, Waterloo Dairy Cattle Congress and the International Dairy Cattle Show at Indianapolis.

But most important of all, a breeding program is being followed in this herd in intensifying the family inheritance on which we are building. Why not consider for your next herd sire a son of Hallrose Hazel Lad, Willow Springs Crescent Prince, Crescent Beauty Supreme or Creston Twenty Grand. Selections can be made from high record cows with high classification ratings sired by the above mentioned bulls. They are making our herd and they could help you.

HICKORY CREEK FARMS

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Howard Foundry Co., Owner

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STUDENT TEACHERS . . .

(Continued from page 11)

ly the eyes of all the girls turned to Miss White to see what she would do and say. Polly realized the importance of a teacher being "calm and collected" at all times.

Martha Samuelson and Margy Woodburn experienced a unique highlight of student teaching at Morton high school. A week before Thanksgiving, three weeks before the end of the student teaching period, the mumps befell Miss Grote, the critic teacher. That didn't stagger Martha and Margy, however. They carried on by themselves, really gaining a knowledge of the role of a home ec teacher. They even helped

the manager of the basketball team dye the tops of basketball socks red!

Supervising a play school for 3- and 4-year-old children at Milford high school was very interesting to Connie Walker and her partner, Mary Strickfaden. Connie developed the play school for the children as part of a child development unit for her sophomore class.

Quite a new experience to us student teachers was giving grades instead of receiving them. We realized what a hardship making out and grading exams actually is. Nevertheless, many of the answers on test papers proved very interesting.

For example, two definitions given for nap were "something between the

grain line" and "a fuzz or protruding part of material." One girl thought of a good French seam as being "straight, not great big, no fuzz hanging out."

Guidance Forums

Beginning February 16, vocational guidance forums will be held for students in agriculture every Thursday at 4 p. m., 103 Mumford Hall.

The object of the forums is to assist students in choosing and preparing for various occupations in agriculture. Job trends along with training and experience requirements, will be discussed.

Watch the bulletin board at 104 Mumford Hall and in the agriculture library for announcements of the forums.

J. M. Christie, M. D.
C. W. Christie, M. D.
J. B. Christie, M. D.
Edward C. Albers, M. D.
W. M. Youngerman, M. D.
J. E. Sexton, M. D.
H. M. Buley, M. D.
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W. Clifford Smith, M. D.
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Comparison of Superior and Inferior Strains

Quality of Bacteria	Pounds Protein per Ton		
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Strain A -----	331	166	750
Strain B -----	280	94	686
Gain for better strain --	51	72	64

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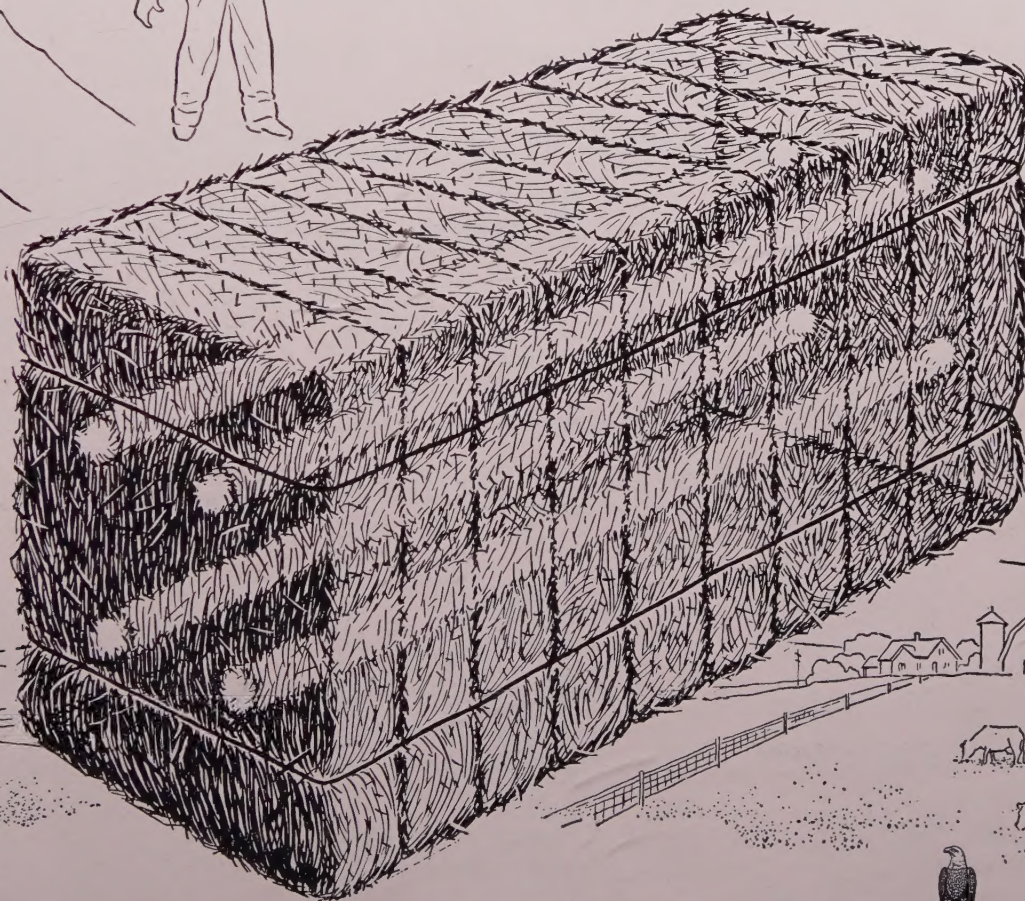
New Challenge to Farming in the 1950's



● Here are four empty holes, full of promise to widen the horizons of grassland farming. They challenge you ...the leaders of tomorrow's agriculture...to find in their four-fold void the vision of soils guarded from erosion, water resources conserved, livestock husbandry given a lift, farming made more prosperous.

With these air tunnels through the dense center of the bale, final curing in storage is faster, more nearly uniform clear through the bale. It widens the margin of safety, reduces the possibility of mold in the bale center, gives greater assurance of bright, sweet hay with full measure of nutrients, vitamins and minerals.

When hay is cut at the peak of protein content and baled before exposure invites leaching, bleaching and loss of leaves, it reduces the need for soil-depleting grains and costly concentrates. As the ventilated bale widens the margin of safety, it widens the acreage adapted to hay crops, widens the margin of profit in producing meat and milk. All this is part of the challenge in the new farm-ways dawning for the 1950's.



Ventilated bales are the result of years of development by Case engineers. Two years of testing by an agricultural college compared ventilated bales with conventional bales of the same hays, handled and stored the same. Professional graders found the hay in ventilated bales of consistently higher average quality. All Case Slicer-Balers are now built with Bale Ventilator. It also is available for installation on machines in use. J. I. Case Co., Racine, Wis.



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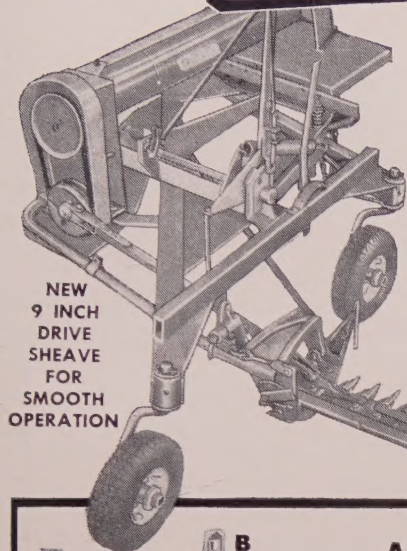
Illinois Crop Improvement Association

Incorporated

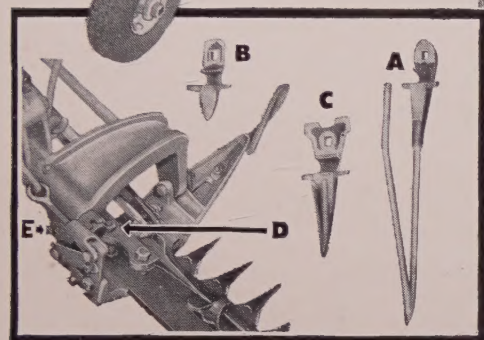
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The **MM** **MINNEAPOLIS-MOLINE** **MODERN MACHINERY** **UNI-MOWER**

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**NEW
9 INCH
DRIVE
SHEAVE
FOR
SMOOTH
OPERATION**



NEW MALLEABLE GUARDS FOR BETTER CUTTING

As a progressive farmer, you will realize the advantages of getting more work done in time and on time *everytime*. The MM Uni-Matic Mower was engineered to help you do more work in less time and with greater ease and safety. Satisfied farmers *everywhere* say the Uni-Mower permits them to cut their hay at the *proper time*, cut their hay crop faster and easily handle even tough cutting.

Owners report that they cut up to 35 acres per day with the MM Uni-Mower equipped with a seven-foot cutter bar. Four interchangeable cutter bars of 4½', 5', 6' and 7' lengths adapt the MM Uni-Mower to your farming requirements. The MM Uni-Mower is easily attached to or detached from any tractor equipped with power take-off.

CHECK THESE FEATURES FOR VALUE:

Greater Flexibility: Mower mounting at the rear of the tractor completely eliminates side draft. Caster wheels follow the contour of the ground to do a more uniform job of *getting all the crop!*

Greater Rigidity: Heavy-duty "push-pull" bar keeps the sickle always in line and assures *greater rigidity* of cutter bar. Finest quality roller bearings on all major shafts and drives provide a smooth, easy cutting action.

Greater Safety: Power take-off and V-belt pulleys are shielded to provide greatest possible safety for the operator. The MM Uni-Mower, mounted behind tractor, permits the operator to see an obstruction before it is hit.

Easier Operation: Safety release spring hitch protects the mower and driving mechanism against breakage. Cutter bar mechanism automatically pivots backward if an obstruction is

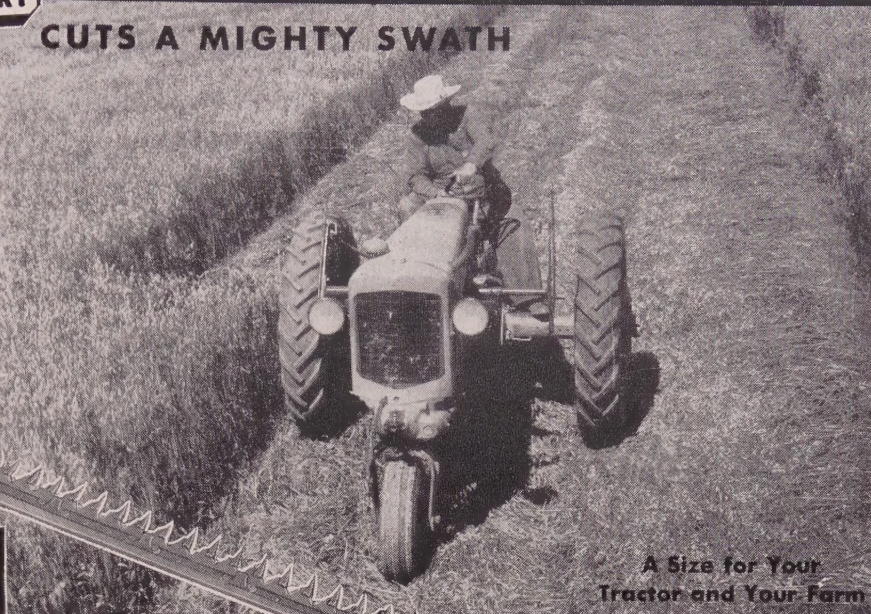
hit. This allows time to stop the tractor before damage can occur. Operator simply backs up the tractor and hitch automatically re-engages. V-belt protects the sickle if an obstruction is hit. The Uni-Mower is designed so that operator can easily cut square corners . . . get all the hay . . . and do a clean, fast job.

Easier, Less Costly Maintenance: Malleable sickle guards are easily replaced with one bolt. Pea Vine guards (A) eliminate clogging when heavy pea vines are cut. Stub guards (B) prevent weeds and heavy stalk and brush from clogging sickle. Rock type guards (C) prevent mis-alignment and breakage when mowing over stony ground. Uni-Mower has quick and easy adjustment features: Adjustable sickle guide (D) holds sickle in place and adjustable eccentric pin bearing (E) aligns cutter bar with pitman drive. MM's Uni-Mower has positive V-belt drive and heavy-duty "push-pull" bar.

Hydraulic Lift Linkage: Labor-saving, convenient hydraulic lift linkage available as optional equipment in place of foot lever or rope and pulley lift.

Windrow Attachment: An easily mounted windrow attachment lays a clean swath for simple, fast handling by the Bale-O-Matic, MM's modern one-man baler that automatically picks up the hay, slices and ties it into firm, square-cornered bales of a pre-selected weight.

See your Neighborly, Neighborhood MM Dealer For Complete facts on the Uni-Mower and other MM Modern Machines, Visionlined Tractors and Power Units.



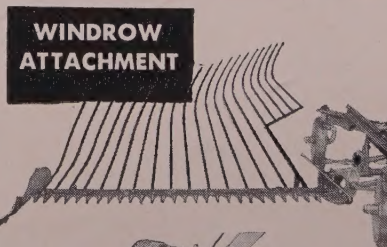
**A Size for Your
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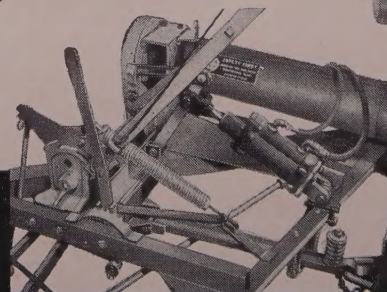
Optional weed cutting attachment (below) is adjustable and holds cutter bar at any uniform height above ground up to 12 inches. Cuts weeds above the tops of crops and cuts over rocky fields.



WEED ATTACHMENT



**WINDROW
ATTACHMENT**



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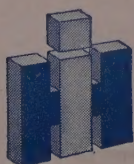
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Giving two parts of an IH tractor frame the "hot foot" with enough current to light twenty-seven thousand 40-watt bulbs produces a weld as strong as the parts it joins. This powerful flash butt welder makes it easy to put together solid steel bars as big as a man's leg. In 5 minutes, it does a job that formerly required 1½ hours.

The flash butt welder is one of many modern welding devices used by International Harvester. Seam welders turn out leak-free fuel tanks in jig

time. Robot-controlled arc welders make it easy to fabricate parts with a peas-in-the-pod uniformity. Inert gas arc welders produce smooth welds that require little grinding—slash the cost of many jobs.

Welding specialists at IH Manufacturing Research are constantly striving to improve welding techniques and broaden their application. These experts are part of a 250-man testing and research team that conducts a never-ending search for ways to give farmers better IH farm equipment.



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